

and generates modulation frames. The respective modulation portions 13 give the generated modulation frames to the corresponding spread portions 14, respectively.

The respective spread portions 14 respectively perform spread processing to the given modulation frames, and generate spread frames. More specifically, the spread codes C1, C2, C3 and C4 are previously set in the respective spread portions 14. The respective spread portions 14 generate the spread frames by calculating the given modulation frames and the previously set spread codes. The respective spread portions 14 give the spread frames to the synthesis portion 15.

The synthesis portion 15 synthesizes the four spread frames given from the respective spread portions 14 to transmit them as one spread signal. The synthesis portion 15 gives the prepared spread signal to the transmission amplification portion 16. After amplifying the spread signal at the amplification degree in accordance with the instruction of the control portion 12, the transmission amplification portion 16 transmits it to the communication partner station through the transmitting antenna 31.

After the spread signal transmitted from the communication partner station is received by the receiving antenna 32, it is given to the reception amplification portion 21. After amplifying the spread signal, the reception amplification portion 21 gives the spread signal after the

amplification to the respective reverse spread portions 22. Spread codes C1 to C4 different from those used in the transmission portion 10 are respectively set in the reverse spread portions 22. The reverse spread portion 22 executes a reverse spread processing as a processing reverse to the spread processing in the spread portion 14. Specifically, the respective reverse spread portions 22 reversely spread the spread signals and restore demodulation signals by multiplying the spread signals by the set spread codes C1 to C4. The restored demodulation signals are given to the demodulation portions 23.

The respective demodulation portions 23 restore baseband signals from the demodulation signals by executing a demodulation processing as a processing reverse to the modulation processing in the modulation portion 13. This restored baseband signals are given to the packet data extraction portion 24. The packet data extraction portion 24 separates and extracts packet data from the baseband signals.

The demodulation portion 23 corresponding to the spread code C1 extracts the control information from the baseband signal, and further extracts the TPC symbol from this. The demodulation portion 23 gives the extracted TPC symbol as information for transmission power control of its own station to the control portion 11 provided in the transmission portion 10. Further, the demodulation portion 23 corresponding to the

spread code C1 obtains reception power on the basis of the pilot symbol from the extracted control information, and measures the SIR on the basis of the obtained reception power. This demodulation portion 23 gives the measured SIR as information for transmission power control of the partner station to the control portion 11 provided in the transmission portion 10.

Fig. 8 is a flowchart for explaining a transmission start control processing in the control portion 12 in detail. The control portion 12 realizes the transmission start control processing by software. Incidentally, this transmission start control processing may be executed by hardware for realizing respective processing.

The control portion 12 checks the presence of packet data at every start timing of previously held wireless frames (step S1). Specifically, the control portion 12 judges whether or not storing of the packet data is started in the transmission buffer 11a in the wireless frame generation portion 11. In the case where there is no packet data (NO in step S1), the control portion 12 ends the transmission start control processing, and reopens the processing of the step S1 in response to the start timing of a next wireless frame.

The packet data exists (YES at step S1), the control portion 12 first obtains a presently used code number m and a delay frame number count value f , and clears a simultaneous processing code number count value k (step S2). Thereafter,